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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/020,774	12/11/2001	Hae Sik Yang	5882P003	8678

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EXAMINER

NOGUEROLA, ALEXANDER STEPHAN

ART UNIT PAPER NUMBER

1753

DATE MAILED: 08/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/020,774

Applicant(s)

YANG ET AL.

Examiner

ALEX NOGUEROLA

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 July 2004.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.  
4a) Of the above claim(s) 14-18 is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-13 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 11 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 12/11/01.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☒ Other: IDS of 02/11/02 and 12/11/2001.

## DETAILED ACTION

### *Claim Objections*

1. Claims 5, 7-10, and 13 are objected to because of the following informalities:
  - a) Claim 5, line 1: -- an -- should be inserted before “IDA”;
  - b) Claim 7, line 2: -- an -- should be inserted before “IDA”;
  - c) Claim 8, line 1: -- the -- should be inserted before “area”;
  - d) Claim 9, line 1: “electrode” should be -- electrodes --;
  - e) Claim 10, line 2: -- of -- should be inserted before “one”; and
  - f) Claim 13, line 2: -- an -- should be inserted before “array.”
2. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention:

a) Claim 1 recites the limitation "the entire structure" in line 8. There is insufficient antecedent basis for this limitation in the claim;

b) Claim 1 recites the limitation "the entire structure" in line 14. There is insufficient antecedent basis for this limitation in the claim;

c) Claim 9 recites the limitation "said each microelectrode" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim;

d) Claim 12 recites the limitation "said wiring" in line 1. There is insufficient antecedent basis for this limitation in the claim;

e) Claim 12 recites the limitation "said wirings" in line 3. There is insufficient antecedent basis for this limitation in the claim;

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f) Claim 13 recites the limitation "each microheater" in line 3. There is insufficient antecedent basis for this limitation in the claim (claims 1-12 only provide a single microheater);

g) Claim 13 recites the limitation "to wiring" in line 4. There is insufficient antecedent basis for this limitation in the claim;

h) Claim 13 recites the limitation "pad" in line 4. There is insufficient antecedent basis for this limitation in the claim; and

i) Claim 13 recites the limitation "each pad" in lines 4-5. There is insufficient antecedent basis for this limitation in the claim.

5. Note that dependent claims will have the deficiencies of base and intervening claims.

***Election/Restrictions***

6. Applicant's election without traverse of July 20, 2004 in the reply filed on July 20, 2004 is acknowledged.

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7. Claims 14-18 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim.

Election was made **without** traverse in the reply filed on July 20, 2004.

*Allowable Subject Matter*

8. Claim 1 would be allowable if rewritten or amended to overcome the rejection under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

9. Claims 2-13 would be allowable if rewritten to overcome the rejections under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

10. The following is a statement of reasons for the indication of allowable subject matter:

a) Claim 1: the nonobvious limitations in the combination of limitations are the requirements that the microheater be formed on the sealing film and “a protection film formed over the entire structure including said electrode and wirings and patterned to expose a portion of said electrode *and wirings* [emphasis added].” In the embodiment shown in Figure 13 of Nakae et al. (US 6,340,419 B1) (“Nakae”) if element **100** is

construed as a support film, element **101** as a sealing film, element **13** as an insulation film, and element **11** as an electrode formed on a portion of the insulation film, then the microheater **160** is not formed on the sealing film, but is separated from the sealing film by the cavity **150** and the support film **100**. Also, if element **14** is construed as a protection film, it is seen from Figure 2, which shows an identical embodiment to the embodiment of Figure 13 except for hole **10** (col. 6, ll. 42-48), albeit a different view, that although a portion of the electrode is exposed by the protection film, wirings connected to the microheater are not exposed by the protection film and can not be as the microheater is on the opposing face of the microelectrode and is connected to wires through contact holes **164** in layer **16**; and

b) Claims 2-13 depend directly or indirectly from allowable claim 1.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALEX NOGUEROLA whose telephone number is (571) 272-1343. The examiner can normally be reached on M-F 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, NAM NGUYEN can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Alex Noguerola  
Primary Examiner  
AU 1753  
August 23, 2004